

# California Public Utilities Commission

Rulemaking 13-11-007

## Bay Area Perspective: Plug-In Electric Vehicle (PEV) Readiness Plans

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Bay Area Air Quality Management District



# Overview



- Introduction
  - Bay Area Air Quality Management District
- PEV Readiness Plan
  - Utility Guidance
- Regional Siting
- Questions & Answers



# Introduction to the Bay Area Air Quality Management District



- Established in 1955
- 9 Counties
- 5,340 square miles
- 7 million population

Mission: To protect and improve public health, air quality, and the global climate





# Opportunity



In the Bay Area, emissions from its 5.7 million vehicles account for:

- 40% of Criteria Air Pollution
- 36% of GHG Inventory

Electric vehicle technology is key to reducing emissions from motor vehicles



# BAAQMD and State PEV Goals



2020

110,000  
BA PEVs

2025

- BA PEVs  
247,000
- +1.5 million  
PEVs Statewide

# Bay Area PEV Readiness Plan



2011 - 2013

- **Phase I (completed December 2012):**

- Building Codes; Permitting and Inspection Practices; Zoning and Parking Rules
- Grid Utility Impacts
- EVSE Siting Plan
- Training and Consumer Education



- **Phase II (completed December 2013):**

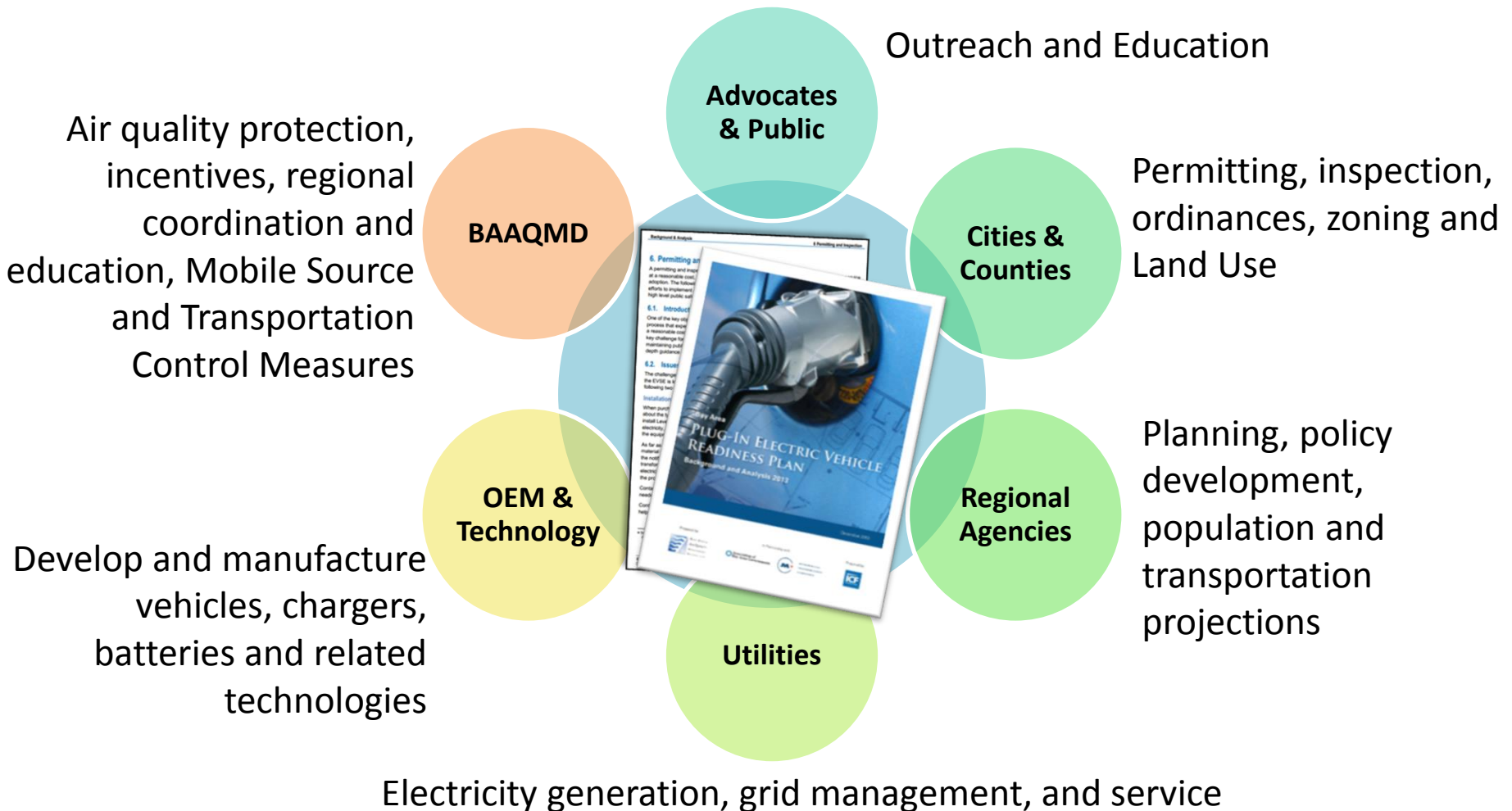
- Public and private fleets
- PEV manufacturing, production, infrastructure and services
- Integration into Sustainable Communities Strategy (SCS)



Available at: [www.baaqmd.gov/EVReady](http://www.baaqmd.gov/EVReady)

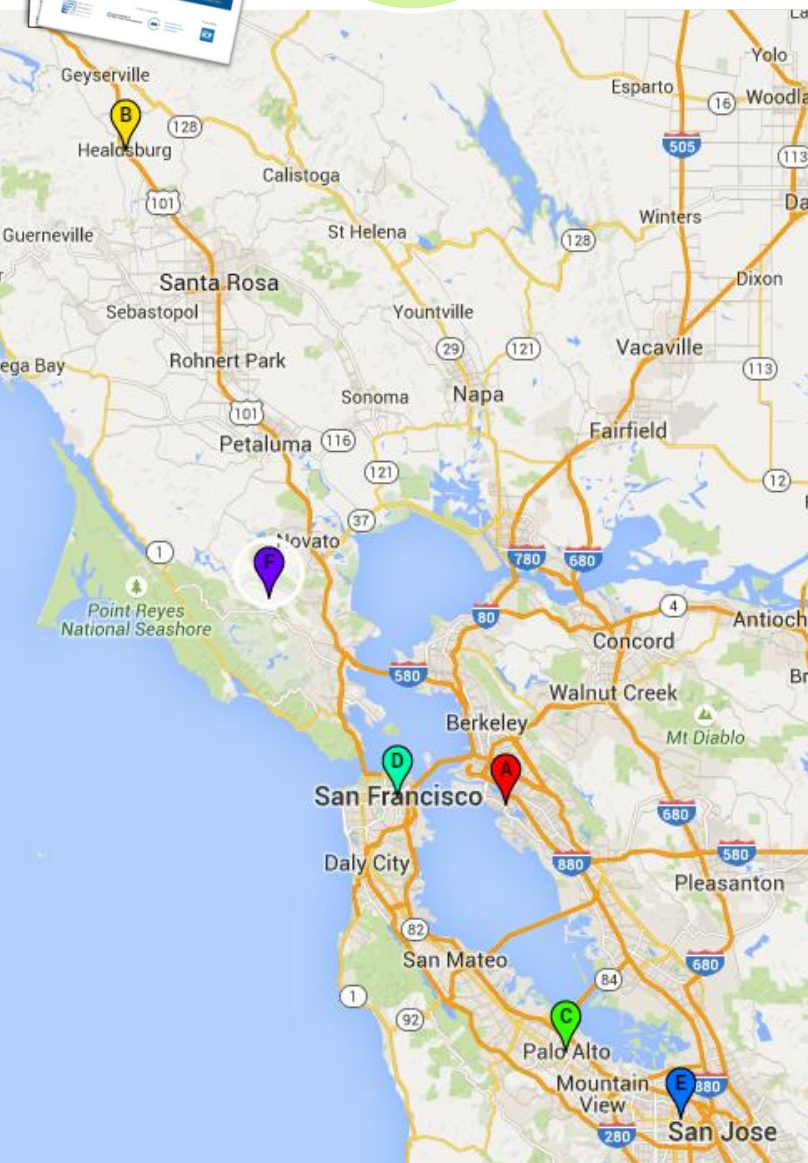


# Regional PEV Ecosystem and Stakeholder Roles



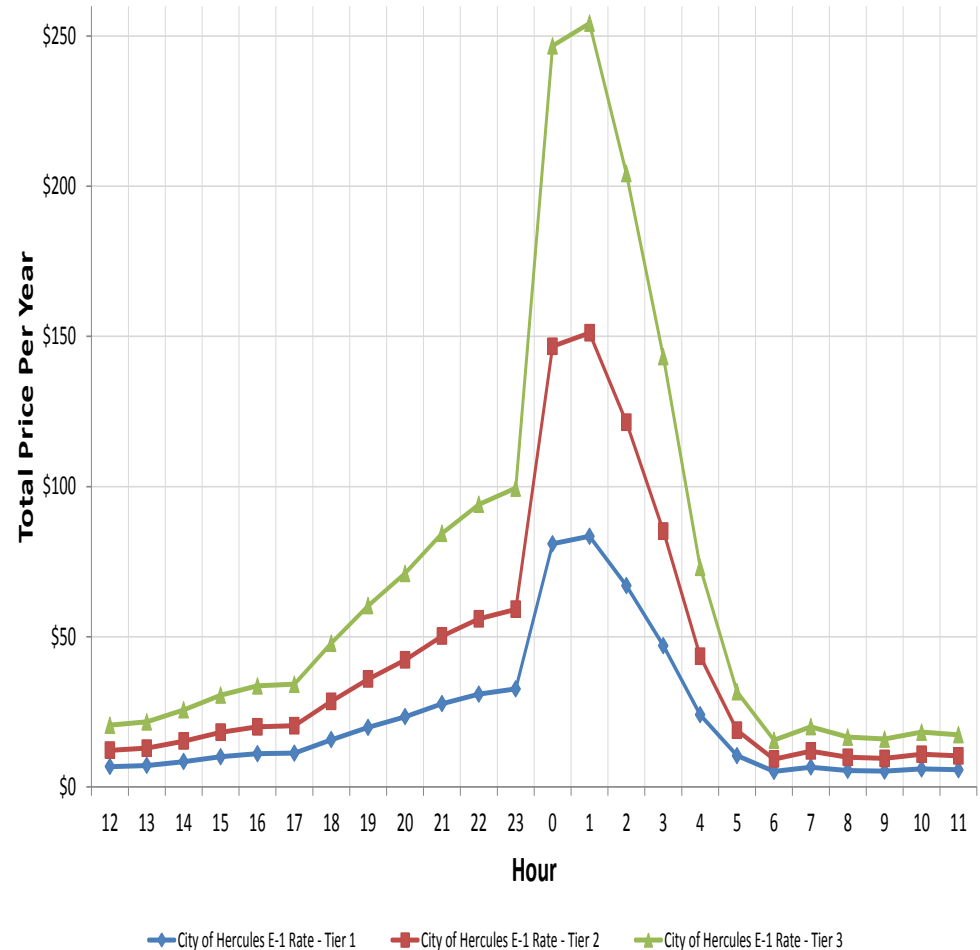
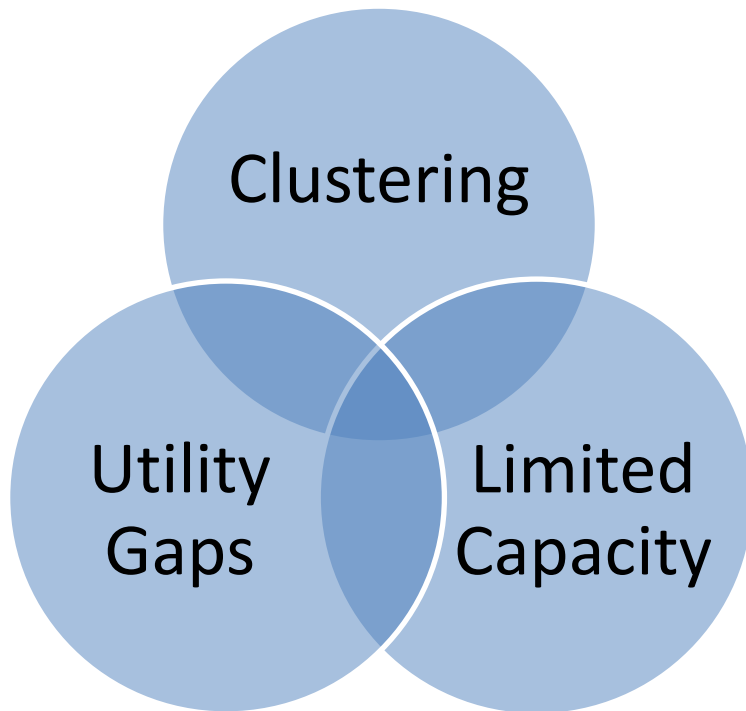
## Utilities

# Map of Utilities



Power Utility Company	Service Area
A. Alameda Municipal Power	City of Alameda
B. City of Healdsburg Electric	City of Healdsburg
C. City of Palo Alto Utilities	City of Palo Alto
D. San Francisco Public Utilities Commission	City of San Francisco, Treasure Island, Yerba Buena Island
E. Silicon Valley Power	City of Santa Clara
F. Marin Clean Energy	all of Marin County, unincorporated Napa County and the cities of Benicia, El Cerrito, Richmond and San Pablo
Pacific Gas & Electric Co.	Rest of Bay Area







Utilities

# Guidance



## Evaluate rate structures

- Alternatives to tiered rate structures
- Time of use rates
- Secondary meters

## Create utility notification protocol

- Minimize grid impacts of EVSE
- Standardize data collection



## Upgrade distribution infrastructure

- Analyze PEV charging impacts on investments
- Vulnerable infrastructure

## Implement consumer outreach programs

- Provide information to customers regarding PEV rates, fueling costs, etc.



Utilities

# Guidance



## Evaluate smart grid opportunities

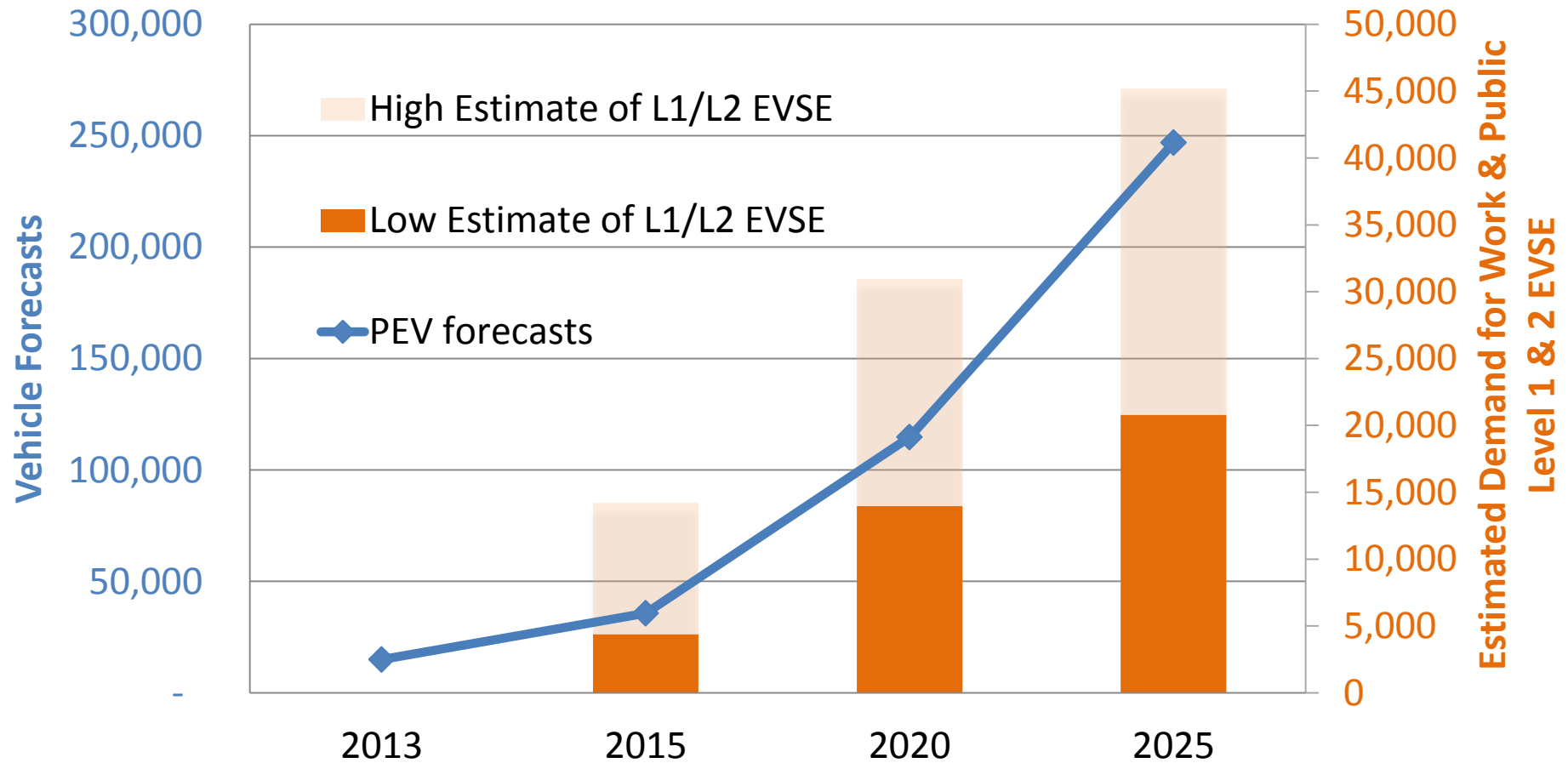
- Grid interoperability with charging infrastructure and vehicles.

## Provide renewable energy options

- Renewable energy rate plan
- Green Pricing Program
- Market PEV incentives

# Bay Area PEV Readiness Plan

## Public EVSE Estimates to Support Forecasts



**Estimated demand for DCFC:** 75-150 chargers at 35-50 locations by 2025

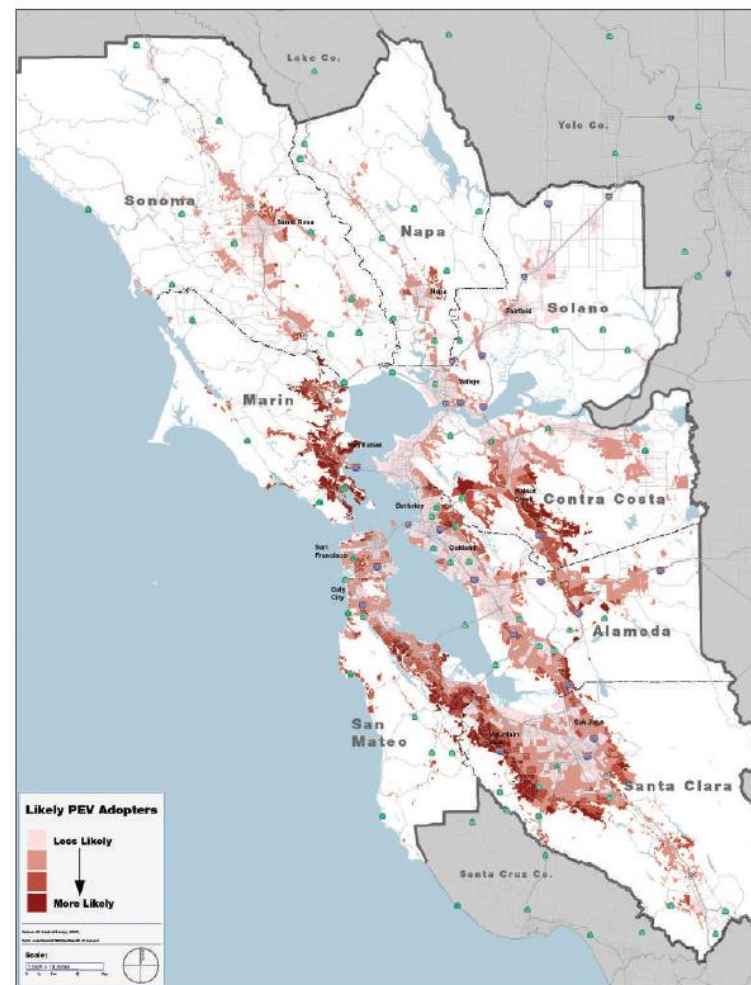
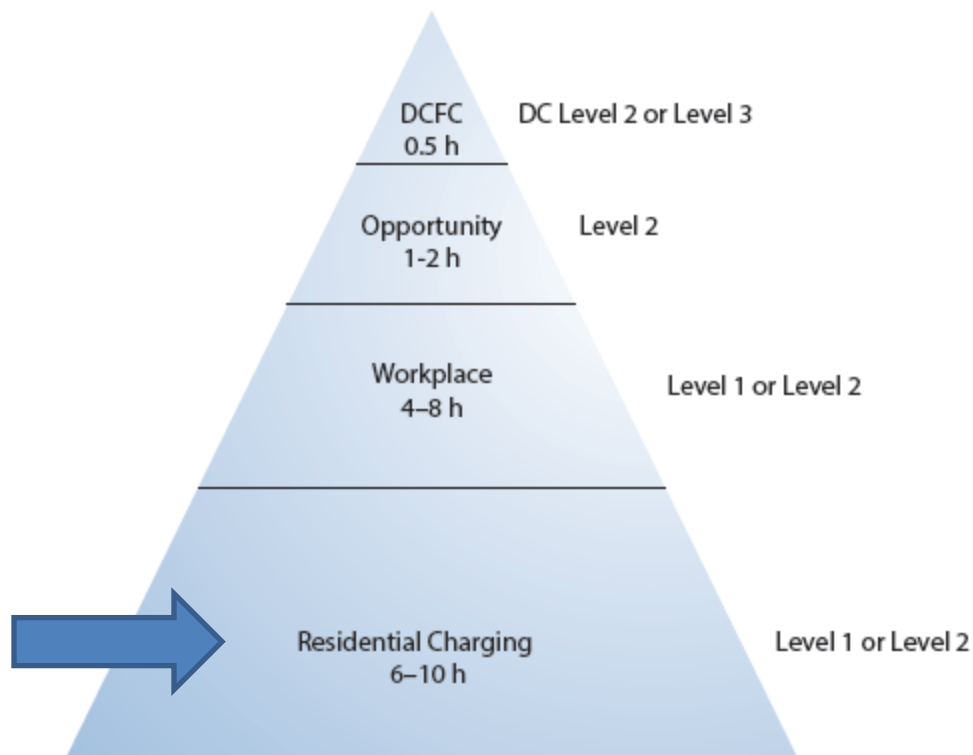


# Infrastructure Deployment

## Regional siting



## Residential Charging Level 1 and 2 EVSE

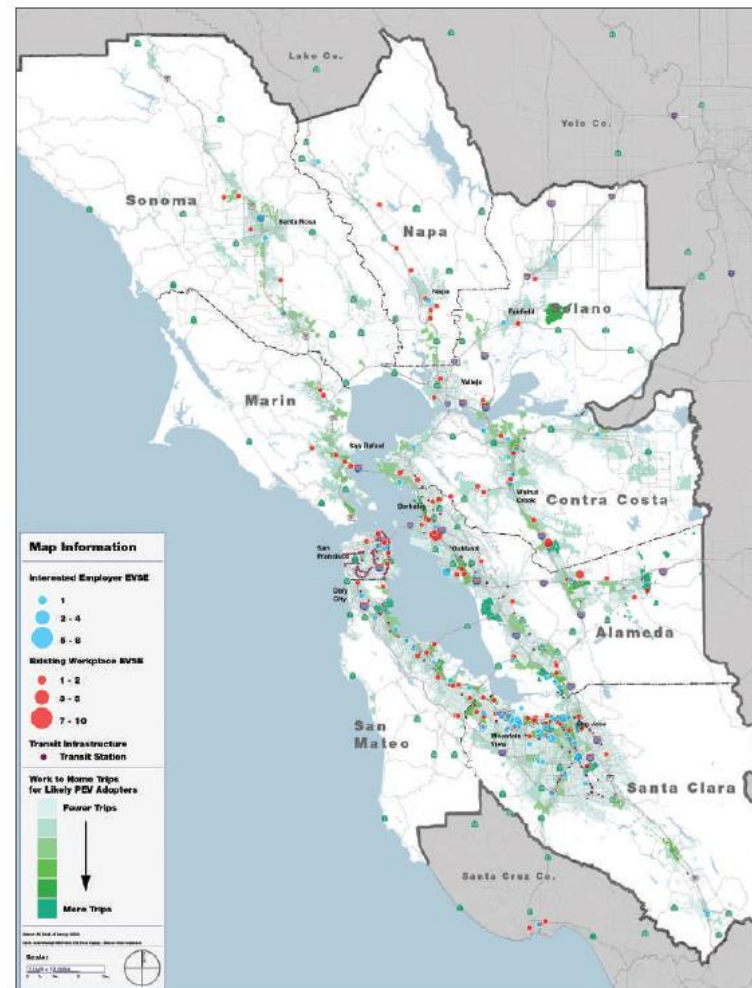
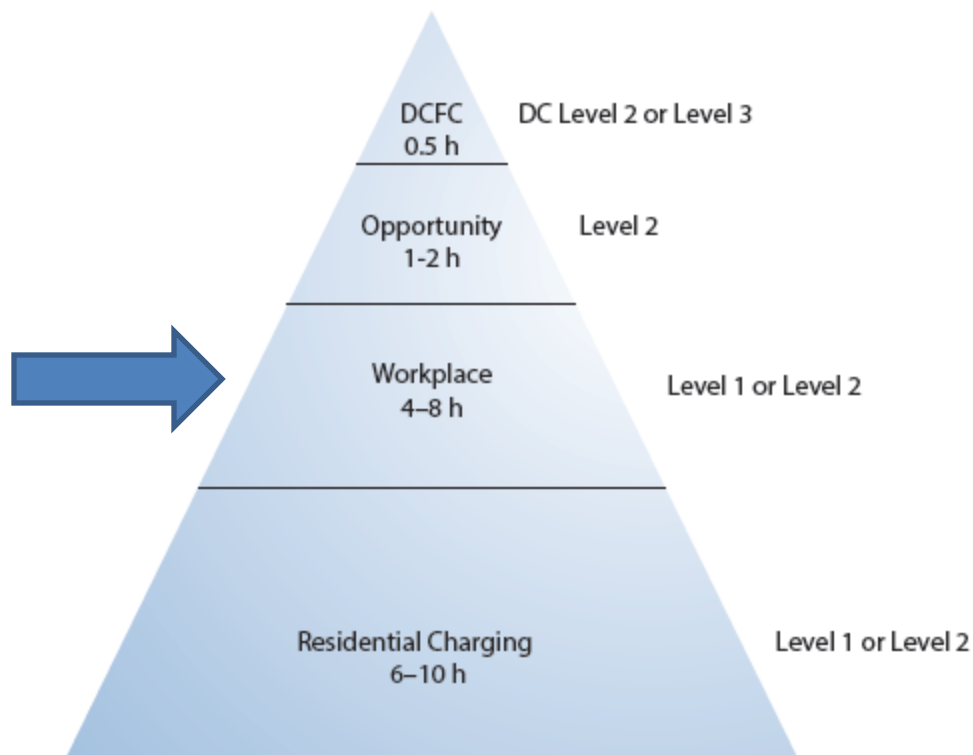


# Infrastructure Deployment

## Regional siting



## Workplace Charging Level 1 and 2 EVSE

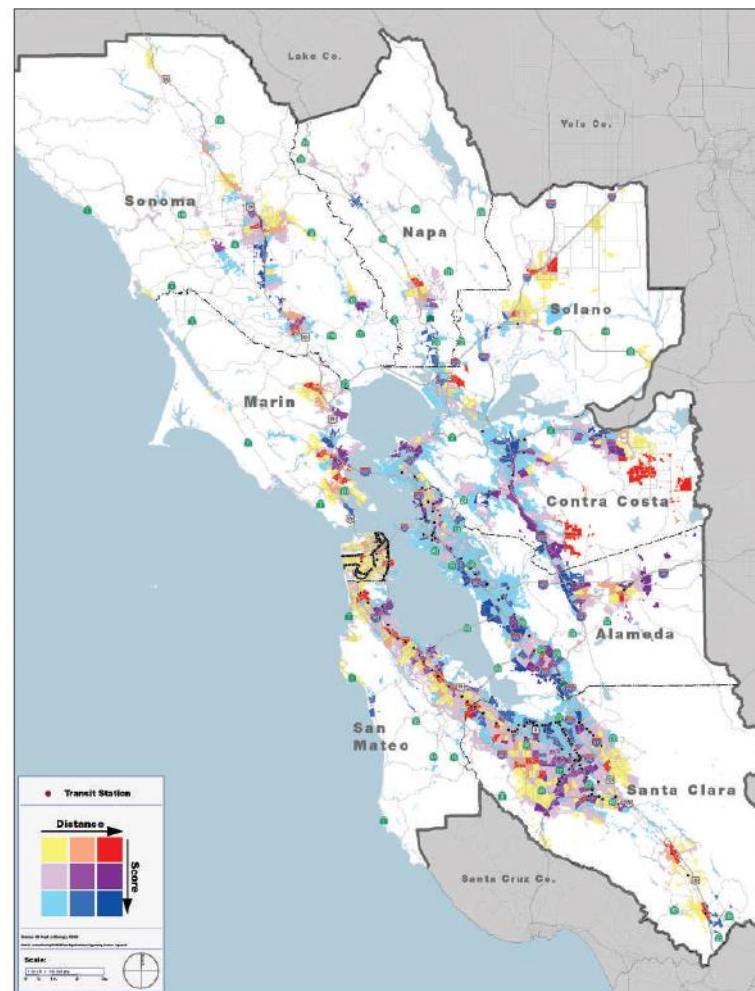
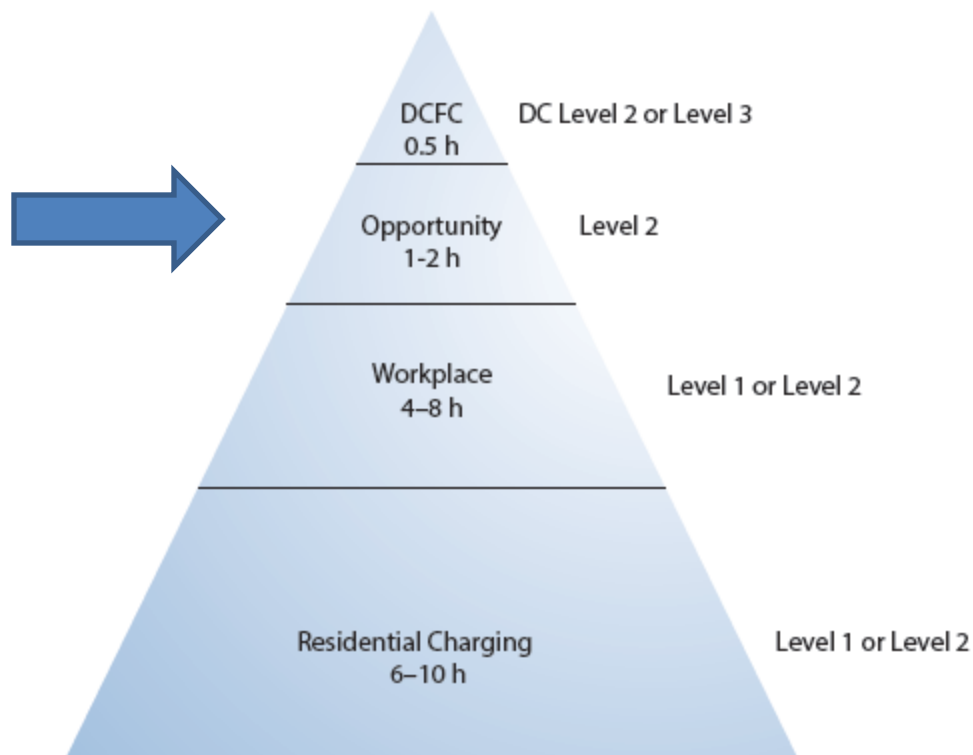


# Infrastructure Deployment

## Regional siting



## Opportunity Charging Level 1 and 2 EVSE

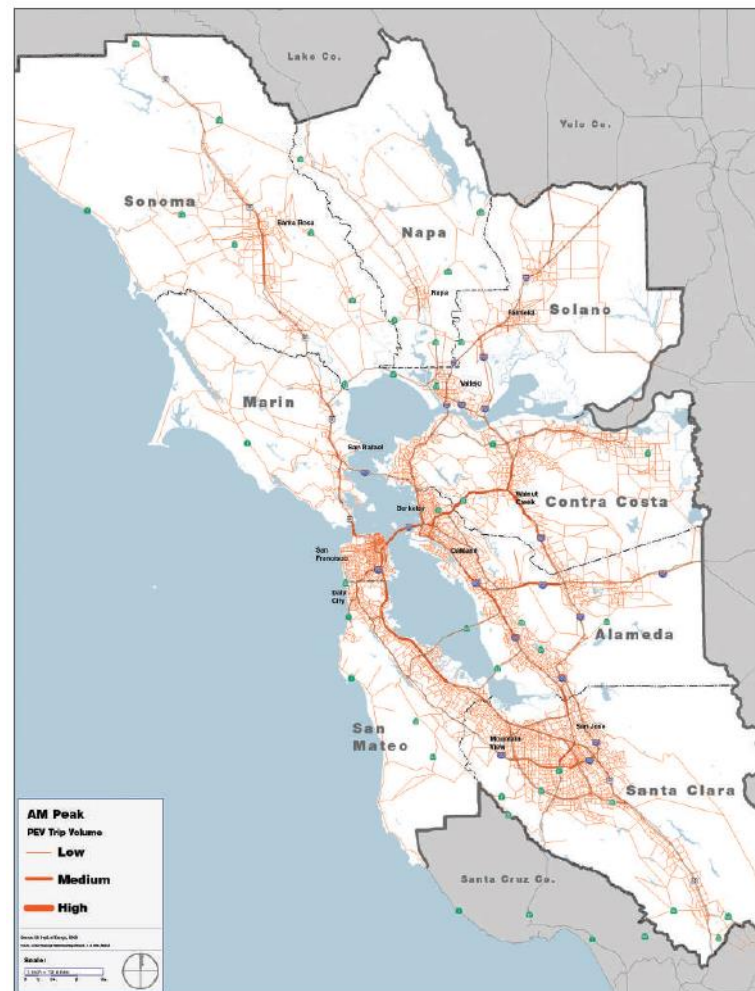
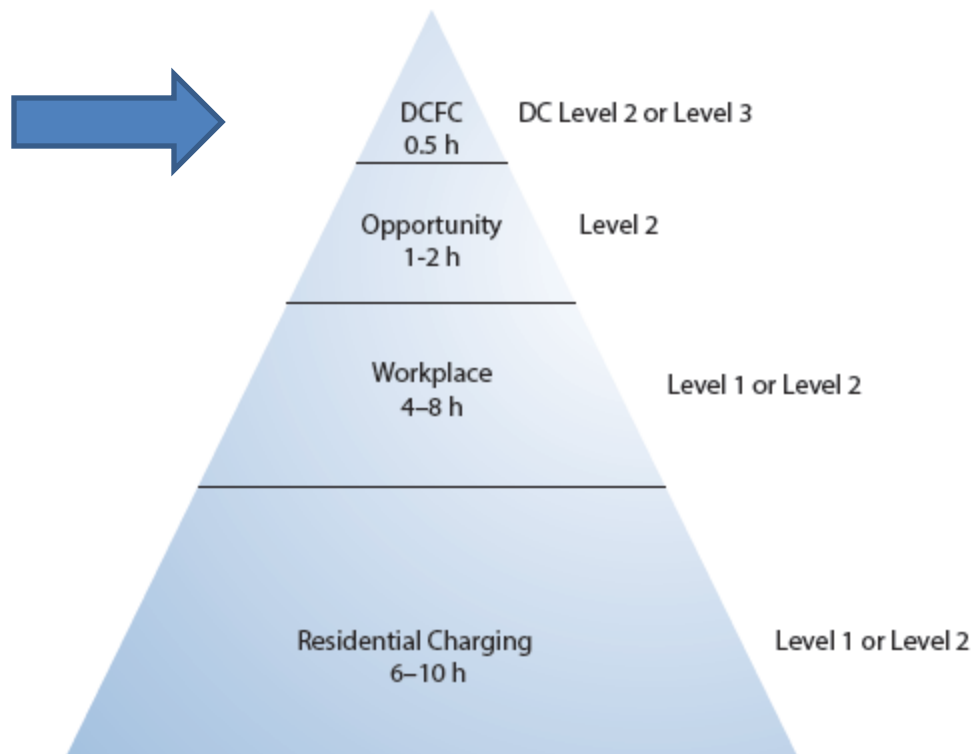


# Infrastructure Deployment

## Regional siting



### DC Fast Charge EVSE: Heavy PEV Volume Corridors





# \$14 Million in Air District Funding For PEVs



## Infrastructure



*Charge!* Program for PEV chargers installed at:

- Workplaces
- Multifamily dwelling units
- Publicly accessible destinations
- Transportation corridors

## Vehicles



For Public Agencies (lower usage)

- Light-duty PEVs
- Neighborhood electric vehicles
- Electric motorcycles

New zero-emissions vehicles for private and public fleets  
(Coming soon!):

- High mileage light-duty vehicles (3 or more); and
- Heavy-duty vehicles and buses





# BAAQMD PEV Program Contacts

## **Bay Area PEV Readiness Plan & Charge! Program**

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